

## Assessment of crime rate during Covid-19 lockdown in Suleja Lga, Niger state

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**Abstract:** *The COVID-19 pandemic had a substantial impact on the historical criminal trend around the world. Most existing studies have mainly studied the impacts of the COVID-19 lockdown on crimes at a whole-city scale, and analysis of its impact on crimes at a relatively micro scale is rare. This study focuses on assessment of crime rate during covid-19 lockdown in Suleja LGA, Niger State. The study employed the use of secondary and primary data with the integration of Geostatistical techniques. The study reveals that Chaza, Madalla, Ibo and Suleja have clustering hotspot with a Z-score of 1.613987 and P-value 0.10653. Furthermore, findings of the study indicates that crime incidence during the COVID 19 lockdown is high in localities like Chaza, Polosa and Berger paint with kidnapping accounting for 75% (15%) of crime incidence. The research, therefore recommends that crime data should be recorded in detail alongside their geographical coordinates by security organisation in other to map their occurrences and plan adequate prevention strategies.*

**Keywords:** Covid-19, Lockdown, Crime, Urbanization, Pandemic, Hot Spot

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### 1. Introduction

Urbanization is becoming an increasing phenomenon in most developing countries, particularly in sub-Saharan Africa. The rate of this urbanization is attributed to the effect of in-migration. Several migrants move to towns and cities in search of a better standard of living and unfortunately, this assumption eludes them on getting to the town and cities. However, the migrants decide to remain in the cities instead of relocating back to the rural areas. Essentially, urbanization without a commensurate improvement in infrastructure facilities leads to urban problems such as unemployment, urban poverty, social vices, traffic congestion, crimes and several others. Interestingly, COVID-19 has greatly impacted on one of the urban problems namely crime.

Unexpectedly, the beginning of the year 2020 saw the emergence of yet another deadly virus (COVID-19), which is a Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (WHO, 2020). The first index case of COVID-19 surfaced as unknown acute pneumonia in Wuhan hospital, a city in Eastern China. Consequently, the World Health Organization (WHO) declared the virus a global pandemic on March 11, 2020 (Cai et al., 2020; Wang et al., 2020) having been previously recognized as a "Public Health Emergency of International Concern (PHEIC)" on January 30, 2020. The lack of available clinical vaccines to combating the virus prompted the global resolve for the adoption of lockdown measures, which was first implemented by the central government of China in Wuhan on January 23, 2020. Subsequently, there were widespread declarations of lockdown in over 100 countries between April and June 2020. This lockdown move became an inevitable option owing to both the anticipated and unanticipated macro-economic shocks that could be triggered by the evolving virus. Following the recommendations of WHO, on March 30, 2020, the Federal government imposed a total lockdown in some part of Nigeria and a declaration of a partial lockdown in some

States in response to the growing transmission of the COVID-19 infection after the first case officially reported on February 27, 2020.

In Niger state a total lockdown was declared on the 13<sup>th</sup> Monday April, 2020 following the confirmation of a positive case of COVID-19 in Limawa community, Minna Niger state (Channelstv, 2020).

The fear of contagion and the containment measures disrupted people's lives, changing almost all activity patterns and social dynamics. Criminal activity was not an exception. The COVID-19 pandemic and the accompanying changes in social dynamics affected victims, criminals, police agencies, and criminal justice systems in multiple ways. These impacts altered opportunities and incentives for criminal activity through several simultaneous and heterogeneous channels (Perez-Vincent, Schargrodsy and Mejía, 2021).

While it was anticipated that the lockdown, either total or partially, would assist greatly in minimizing the rate of transmission of the rampaging virus across the country, it was surprising that most of the impacts of COVID-19 lockdown measures have been alarmingly negative; a gradually increasing death toll, job losses, unemployment, a looming global financial crisis and upsurge in crimes are among the most commonly reported issues worldwide (Boman & Gallupe, 2020). The relationship between the COVID-19 pandemic and crimes has varied in terms of types of crimes (Ashby, 2020). It was found that the lockdown measures had a statistically significant impact on certain types of crimes: some crimes may decrease (Example, burglary and robbery), and some crimes may increase such as domestic violence (Mohler et al., 2020), while crimes such as stolen vehicles, burglaries, assault with deadly weapons, intimate partner violence, and homicide have not been significantly affected (Campedelli, Aziani, & Favarin, 2021).

The COVID-19 pandemic had brought to the forefront that the country had failed in the basic needs of protection of the lives and property of its citizens (Amara and Igboanugo, 2020). In the wake of the infectious deadly virus (Corona virus) which had caused a pandemic in the whole world, individuals began responding contrastingly to it.

Resultantly, fear became exacerbated due to economic instability, job loss especially for a great number of the populace and those with menial jobs, and the worst of the fear was that of contracting the dreaded deadly virus. The virus in its inception into the country created unthinkable levels of desperation, suffering, and panic (Charles and McKinley, 2020) and invariably contributed to the increase in criminal activities by both the governed and the governors (Amara and Igboanugo, 2020).

Major cities like Lagos, Ogun, Anambra, Abuja, Delta, Edo, and Borno witnessed unprecedented criminal activities during the lockdown caused by the COVID-19 pandemic. The pandemic had wreaked untold havoc on the fragile state of Nigeria (Suleja Local government of Niger state included), which triggered a lot of unrest and conflict and the resultant effect was the increase in crime incidence.

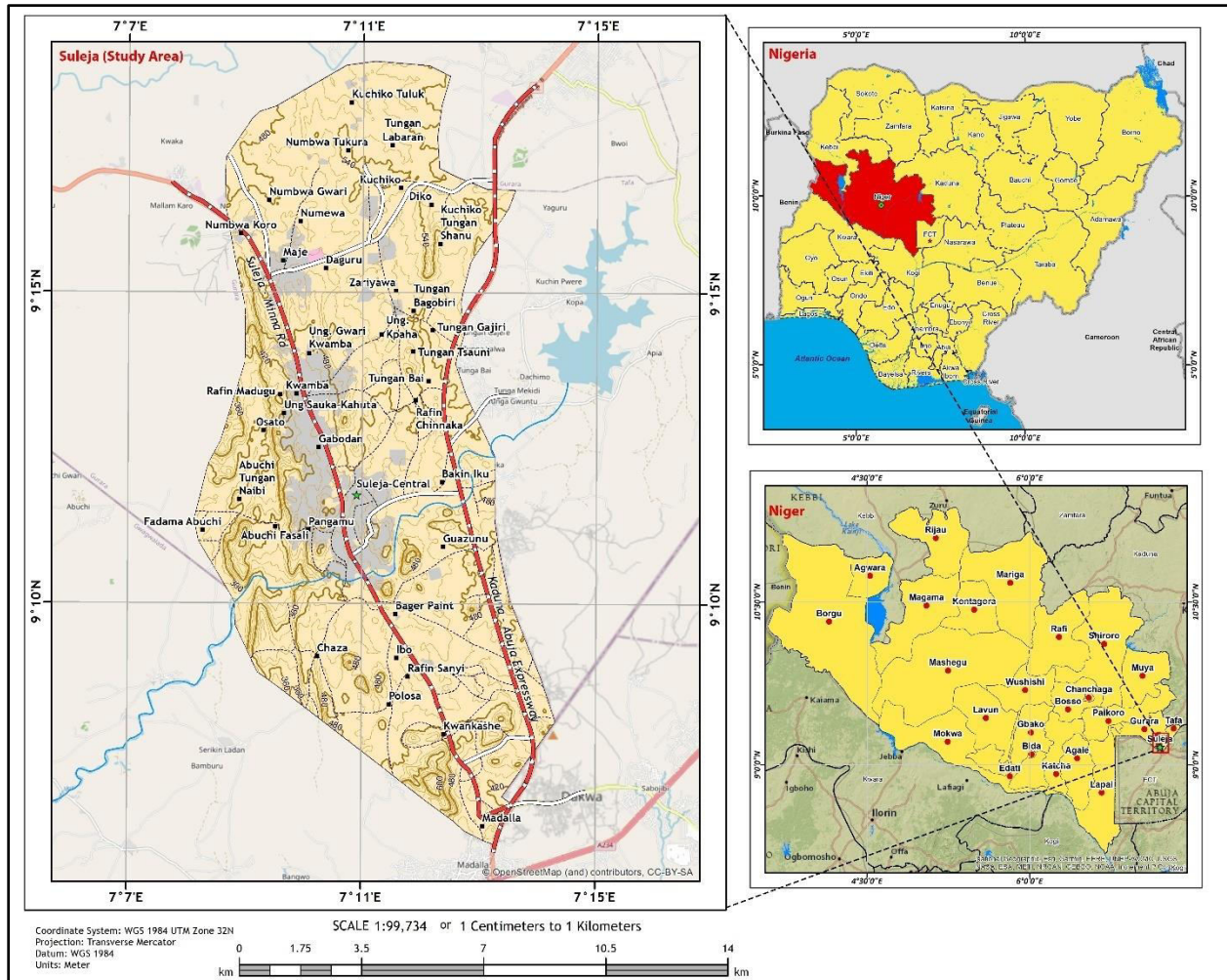
Recent studies have analysed the impact of the COVID-19 pandemic on different types of crimes ( Rashid, 2021; Akanmu et al., 2021; Ceccato, Kahn, Herrmann, and Östlund, 2021; Christiana, 2021; Amara and Igboanugo, 2020; Boman and Gallupe, 2020; Perez-vincent and Schargrodsy, 2020).

It is in the context of the above-mentioned issues and many others that this study tends to bridge the research gap by assessing the extent of crime rate due to Covid – 19 Lockdown in Suleja, Niger State.

## 2. Study Area

Suleja lies between latitude 9° 6' 13.8" and 9° 17' 49.35" north of the equator and longitude 7° 6' 58.6" and 7° 12' 18.41" east of Greenwich Meridians The area extent of Suleja is 136.33km<sup>2</sup>.

Suleja is bounded by Gurara to the North West, to the East by Tafa and to the South by Gwagwalada Zuba in Federal Capital Territory ( Aminu and Nirnanjan, 2013).



**Fig Fehler! Kein Text mit angegebener Formatvorlage im Dokument.: Map of Study Area**  
**Source: Author's lab work (2022)**

The geology of Suleja is made up of two major rock formation namely sedimentary(Bida basin) and basement complex rocks. Sedimentary rocks to the south are characterised of sandstone and alluvial deposits, particularly along the Niger valley and in most parts of Niger state. This sub area also contains the extensive flood plains of the River Niger and this has made the state to be one of the largest and most fertile agricultural lands in the country (Areo, Arinola, & Adesina, 2019). The Basement Complex comprises of migmatites, gneisses, schists, migmatite-gneiss and granite (Akano, Idris-Nda, & Waziri, 2016)of the Birnin-Gwari Schist and Kushaka Formation. The study area has a long range of hills and ridges on the western side of the town, which has restriction in that direction slope in certain area of the developed town are up to 30% and that is responsible for the rapid erosion and gully formation which are common in the area.

Suleja climate condition consists of two seasons: the dry and wet season. Relative humidity is 72% in rainy season and quite low in dry season. August and July always have the highest downpour of rain while the mean annual rainfall is about 428.83mm of rain and approximately 30 rainy days. The month of March always have the highest amount of temperature of about 31°C and lowest in August at about 26°C due to the frequency of rainfall (Yahaya and Odekunle, 2019). The natural vegetation of the area falls within the Southern Guinea Savanna vegetation of Niger state and it is characterized by thick grassland with numerous trees and shrubs with gallery forests characteristic of rain forest species made up of trees such as Mahogany, Iroko, Obeche,

Locust Bean, Shea Butter trees, Palm trees and generally having light vegetation sparsely populated by trees of moderate height and sizes (Akano et al., 2016). Several years of cultivation coupled with effect of soil erosion and urbanization have profoundly reduced the density of vegetation cover in the area in recent time. Dominant soil parent materials in the study area are the weathered remains of the varied basement complex rocks. The soils derived from the weathered rocks are deep, weakly to moderately structured sand to sandy clay with gravelly and concretionary layers in the upper layer or beneath the surface layer. The dominant soils are broadly categorized as Ferric Luvisols, Ferric Acrisols and Ferric Cambisols (Ojanuga, 2006). The existing land use of the study area includes residential, commercial, recreational, Industrial, Agricultural and educational land uses. According to 2006 provisional population census, Suleja Local Government has a population of 216,578 and covers a land mass area of 118,910 Sq.km with 2,142 Density/Square kilometre (Niger State Bureau of Statitics, 2012). Socio-economic activities in the area include export of pottery, farming, cotton weaving, dyeing with locally grown indigo and mat making are the traditional primary activities. In addition, secondary and tertiary economic activities are also carried out.

### **3. Material and Methods**

#### **3.1 Data Acquisition**

The study involved the use of secondary and primary data with the integration of Geostatistical techniques. Secondary data used for the study were sourced from journals, archives, base map of the study area and crime data of various capital offenses; such as homicide, kidnapping, theft, robbery and unlawful possession from the Police Headquarters (A, B and C). Primary data which include field data were gotten with the use of Global Positioning System receiver (GPS) The data were analysed and presented by the use of graphs, tables and maps to explain the distribution of crime incidents in the study area. The software used for data analysis include: ArcGIS 10.8, SPSS 25, Microsoft Excel, and Google spread sheet for geocoding of the crime data.

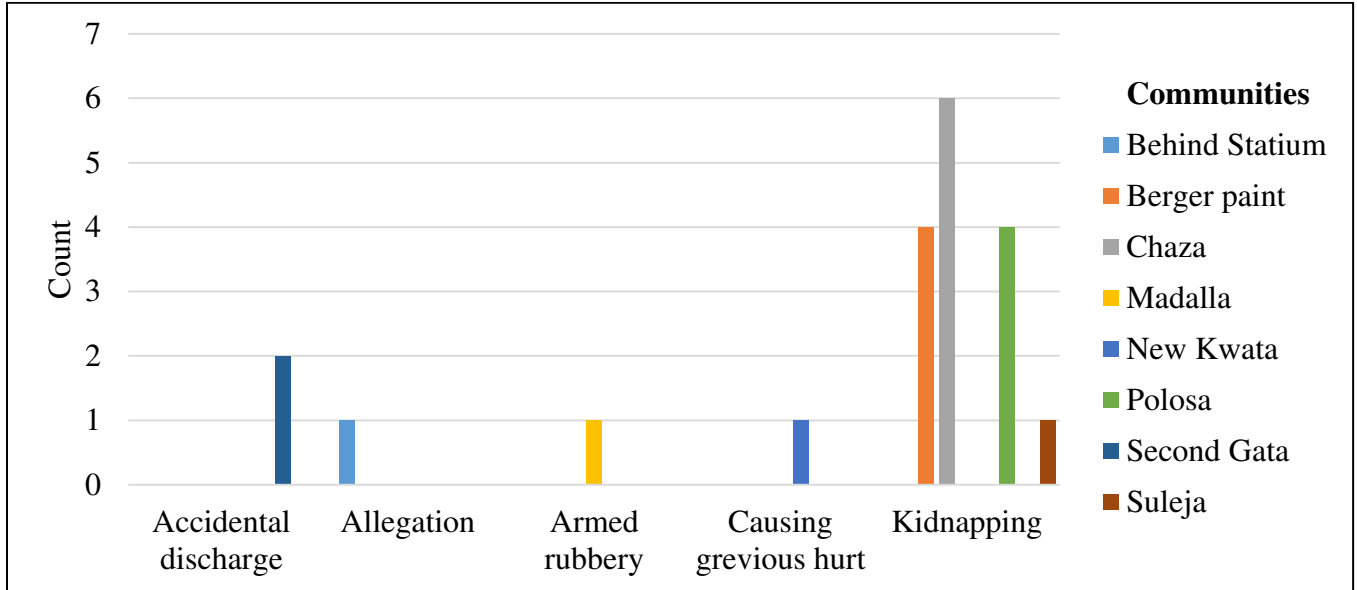
#### **3.2 Method of Data Analysis**

Crime data collected from the police headquarters were collated in Microsoft excel and saved as CSV (comma delimited) which is one of the recognizable and acceptable formats in the ArcGIS environment, and set on a projected coordinate system (WGS 1984 UTM Zone 32). A relational database structure was then created with tables containing item of data called fields about a particular crime which consisted of; types of crimes, date of incidence, time of incidence, gender of victim, address of crime and postal code. The data were analysed using a combination of descriptive and spatial statistical tool such as the Hotspot analysis (Getis-Ord  $G_i^*$ ) and inverse distance weighted (IDW), fishnet, integrate and collect event etc. A compound SQL quarry expression was also performed in order to select the crime records that fall within the lockdown era (25 March – 9 June, 2020) for the purpose of the analysis. The SQL query operation returned a total number of 20 capital offences which were used in as input for the GIS analyses. A hotspot analysis was then performed in the ArcMap environment using the Mapping Clusters toolbox.



crime category (cool spot). This deviation may be attributed to inadequate record of crime committed during the period under review which may be attributed to poor reporting and documentation in the areas.

**Identifying most prevalent crime types during the Covid lockdown era**



**Fig 3: Covid 19 Lockdown prevalent crime type**

*Source: Author’s lab work, 2022*

To identify the most prevalent crime type during the COVID 19 Lockdown in Suleja, a total of 20 crime records were analyzed in SPSS descriptively (25 March – 9 June, 2020), As shown in Fig.2, kidnapping account for 75% (15), accidental discharge 10% (2) Allegation, armed robbery and causing of grievous harm accounting for the remaining 15% (5) The result of the analysis reveals that Kidnapping is the most prevalent crime that occurred during Covid lockdown period. This finding conforms to the work of Bello and Olalekan, (2021). Kidnapping has been described as a criminal act because it involved denying someone’s freedom as well as requesting ransoms in exchange for the person’s freedom. The expectation was that the incessant kidnappings and killings in the country would decline during the period of COVID-19 pandemic lockdown basically because of the fear of contracting the COVID-19. However, the kidnappers seem not deterred with getting infected as the business continues as usual. Prior to the outbreak of the virus, Abuja-Kaduna expressway was not safe for commuters as it witnessed several kidnappings and killings. Aside from civilians being kidnapped and some killed, a huge number of security agencies have also been killed along these routes (Shamusudeen, 2020). This implies that kidnappers have taken advantage of the coronavirus pandemic lockdown and curfews to further their nefarious activities.

**5.Conclusion**

Covid-19 Lockdown measures put in place by the government have adversely affected the wellbeing of the residents from its intended aim. Essentially, it affected jobs and employment causing an upsurge in the rate of crime particularly in communities with less security offices. Crime is not uniformly spread across the landscape. Its clusters in some areas and is almost absent in others. Crime of different types and magnitudes are common features of human settlement that threaten the security of our towns and cities. Although the study observed that the incidences of serious crimes like armed robbery, Kidnapping, culpable homicide and rape are high, the predominance of other forms of personal and property crimes in neighbourhoods classified as hot spots and high crime areas are enough threat to urban security.

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